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Database :
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Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB seq length: 0
Maximum DB seq length: 2000000000
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
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Gapop 10.0 , Gapext 1.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5544816 seqs, 2976611598 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-763-019-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Published_Applications_NA:*
1: /cgn2_6/ptodata/2/pubpna/US07
2: /cgn2_6/ptodata/2/pubpna/PCT_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       atggtgaatcggttgc.....ttccaaacgttgaacatccg 446
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/Cgm2_6/ptodata/2/pubpna/US09E_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US09E_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US09C_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10A_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10B_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10B_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10E_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10E_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10E_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10E_PUBCOMB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
/Cgm2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cgn2_6/ptodata/2/pubpna/US07
                                                                                                                                                                                                                                                                                                                                                                                                                                                     6/ptodata/2/pubpna/US08_NEW_PUB.seq:*
6/ptodata/2/pubpna/US08_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6/ptodata/2/pubpna/PCT_NEW_PUB.seq:*
6/ptodata/2/pubpna/US06_NEW_PUB.seq:*
6/ptodata/2/pubpna/US06_PUBCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                        6/ptodata/2/pubpna/US09A_PUBCOMB.seq:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NEW PUB. seq: *
PUBCOMB. seq: *
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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154.8	154.8	156.4 156.4	156.4	161	168.6	168.6	203	209.4	Score
34.7	34.7	35.1 35.1	35.1	36.1	37.8	37.8	45.5	47.0	Query
565	458	463 603	457	461	503	460	579	529	Query Match Length DB
15	15	15	15	15	15	15	15	15	BB
US-10-178-449A-17 US-10-636-396-6	US-10-178-449A-21	US-10-178-449A-9 US-10-178-449A-11	US-10-178-449A-13	US-10-178-449A-46	US-10-178-449A-1	US-10-178-449A-3	US-10-178-449A-31	US-10-178-449A-48	ID
Sequence 17, Appl Sequence 6, Appli		Sequence 9, Appli Sequence 11, Appl	Sequence 13, Appl	Sequence 46, Appl	Sequence 1, Appli	Sequence 3, Appli	Sequence 31, Appl	Sequence 48, Appl	Description

45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12
9	39.2	39.6	9	40	40	40	40.2	40.2	40.8	40.8	41.2	41.6	44.6	44.6	44.6	4.	•	.7	56.6	58.4	65.8	74.8	5	86.6	7.	8	88.2	.91.4	9	138.4	·	153.2	154.2
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US-09-759-584-58	US-10-31	US-09-754-853A-3	US-09-754-853A-2	US-10-388-361A-45	US-10-006-252A-19	US-09-759-584-48	US-09-938-842A-2046	US-09-938-842A-2046	US-10-681-972-9	9-829-381	US-09-732-561-15	US-09-732-561-21	US-10-681-972-12	US-09-829-381A-12	US-10-681-972-14	US-09-829-381A-14	US-10-178-449A-27	-10-178-	US-10-178-213-88	US-09-759-584-36	US-09-770-696-283 ·	US-10-178-449A-36	US-10-178-449A-5	US-09-759-584-34	US-10-178-449A-34	US-10-178-449A-7	US-10-178-449A-29	US-09-759-584-33	US-09-759-584-31	US-10-178-449A-15	-10-178-449A-2	-10-178-449A-1	US-10-636-026-6
Sequence 58, Appl	e 1,	3, 1	<i>ا</i> د	45,	Sequence 19, Appl	48, Apı	6	Sequence 2046, Ap	Sequence 9, Appli	9, 1	15	1, 7	e 12,	2, 7	14,	4, P	27,		e 88,	36, 1	283,	36,	e 5,	34, 1	34,	7,	e 29,	Sequence 33, Appl	31,	15		e 19,	Sequence 6, Appli

## ALIGNMENTS

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RESULT 1

US-10-178-449A-48

US-10-178-449A-48

Sequence 48; Application US/10178449A

publication No. US20030140368A1

APPLICANT: Hermann, Rafael

APPLICANT: Hermann, Rafael

APPLICANT: Miao, Guo-Hua

APPLICANT: Miao, Guo-Hua

APPLICANT: Weng, Zude

ITILE OF INVENTION: Plant Defensins

FILE REFERRNCE: 35718/249123

CURRENT APPLICATION NUMBER: US/10/178,449A

CURRENT FILING DATE: 2002-05-21

PRIOR APPLICATION NUMBER: US 10/030,516

PRIOR APPLICATION NUMBER: US 10/030,516

PRIOR APPLICATION NUMBER: US 00/030,516

PRIOR APPLICATION NUMBER: US 00/133,039

PRIOR APPLICATION NUMBER: US 60/133,039

PRIOR APPLI
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APPLICANT: Rafalski, Jan antoni
APPLICANT: Weng, Zude
TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT APPLICATION NUMBER: US 10/030,516
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
SOFTWARE: FastSEQ for Windows Version 4.0
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US-10-178-449A-31
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Best Local Similarity
Matches 236; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 31, Application US/10178449A Publication No. US20030140368A1
                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 31
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Best Local Similarity 82.9
Matches 240; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Famodu, Omolayo O. APPLICANT: Herrmann, Raffael APPLICANT: Lu, Albert L. APPLICANT: McCutchen, Billy
                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Vernonia mespilifolia
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LOCATION: (25)...(372)
                                                                                                                                                                                                                                                                                                                 LENGTH: 579
                                                                                                                                 155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       258 TGAAAAACTCGCTCAAGATAAGCTAAAAGCAGAAGAGCTTGCTAAAGACAAACTCAAGGC
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 AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAAGC
                                                            CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                            AGAAATCTCGAGTGTGAGAGCAGAGCTATGCGAGAGAGCTAGCAAGACATGGTCAGGCAA
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McCutchen, Billy Fred
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Rafalski, Jan antoni
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82.5%;
                                                                                                                                                                                    45.5%; Score 203; DB 15;
81.1%; Pred. No. 2.7e-46;
cive 0; Mismatches 55
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Pred. No. 4.2e-48;
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TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR PILING DATE: 2000-05-03
PRIOR PILING DATE: 2000-05-03
PRIOR PILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR PILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 3
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; TYPE: DNA
; ORGANISM: Dimorphotheca sinuata
US-10-178-449A-3
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                                                                                                                                                                                                                                                                                                          Matches 195; Conservative
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Famodu, Omolayo O.
APPLICANT: Herrmann, Rafael
APPLICANT: Lu, Albert L
APPLICANT: McCutchen, Billy Fred
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                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      212
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                                                                          207
                                                                                                                                                                                         215 CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
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                                                                                                            275 AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
                                                                                                                                                                                                                                                   155 AGATATCGCATCCGTTAGTGGAGAAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               332 AGATAAGTTTGACCATGATGCAAAAGAAGTAGTACCAAATGTCGAACATCC 382
                                                                                                                                                                                                                               87
                      CGAAAAGCTTGCTCAAGACAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATG 393
                                                                          TGCGTGTCATGTGCGTGGGGAAACACATGTGCTTCTGCTACTTCAATTGTAAAGAAGC
                                                                                                                                                                                                                               AGAAATCGCGACTGTGAGAAGTGCACTATGTGAGAAAGCTAGCAAGACATGGTCAGGCAA 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAAAAGCTTGACCGTGATGCCAAGAAAGTGGTTCCAAACGTTGAACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGAAAAACTCGCTCAAGATAAGTTAAAAGCTGAAGAGCTTGCAAAAGACAAACTCAAGGC
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                                                                                                                                                     CTGTGGCAACACGGGACACTGTGACGACCAGTGTAAGTCGTGGGAGACTGCAGCCCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Weng, Zude
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Rafalski, Jan antoni
                                                                                                                                                                                                                                                                                                                          37.8%;
                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                          Score 168.6; DB Pred. No. 1e-36;
                                                                                                                                                                                                                                                                                                                                              DB 15;
                                                                                                                                                                                                                                                                                                          44:
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                                                                                                                                                                                                                                                                                                                                                Length 460;
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; Sequence 1, Application US/10178449A; Publication No. US20030140368A1; GENERAL INFORMATION: ; APPLICANT: Famodu, Omolayo O.; APPLICANT: Herrmann, Rafael; APPLICANT: Lu, Albert L.; APPLICANT: McCutchen, Billy Fred

US-10-178-449A-1

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TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: ŬS 10/030,516
PRIOR APPLICATION NUMBER: OT/US00/11952
PRIOR FILING DATE: 2000-05-03
PRIOR FILING DATE: 2000-05-03
PRIOR RELICATION NUMBER: US 60/133,039
PRIOR FEALICATION NUMBER: US 60/133,039
PRIOR RELICATION NUMBER: US 60/133,039
PRIOR RELI
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US-10-178-449A-46
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                                                          APPLICANT: Weng, Zude
TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
FILE REPERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR FILING DATE: 2000-05-03
PRIOR PILING DATE: 1909-05-07
NUMBER OF SEQ ID NOS: 51
COCTUMENT SEQ ID NOS: 51
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Best Local Similarity
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SOFTWARE: FastSEQ for Windows Version 4.0 EQ ID NO 46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Miao, Guo-Hua
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lu, Albert L.
McCutchen, Billy Fred
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Rafalski, Jan antoni
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Rafalski, Jan antoni
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CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR PILING DATE: 2000-05-03
PRIOR EILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR PILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; NAME/KEY: CDS
; LOCATION: (14)...(340)
US-10-178-449A-46
                                                                          ; FEATURE:
, NAME/KEY: misc feature
; LOCATION: 424, 436
; OTHER INFORMATION: n = A,T,C or
US-10-178-449A-13
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APPLICANT: Famodu, Omolayo O.
APPLICANT: Herrmann, Rafael
APPLICANT: Lu, Albert L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 13, Application US/10178449A Publication No. US20030140368A1
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Best Local Similarity
Matches 194; Conserv
Query Match 35.1
Best Local Similarity 77.2
Matches 190; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Plant Defensins FILE REFERENCE: 35718/249123
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TYPE: DNA
                                                                                                                                                                      ORGANISM: Parthenium argentatum Grey
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TYPE: DNA
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McCutchen, Billy Fred
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Rafalski, Jan antoni
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                  35.1%;
77.2%;
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Score 156.4; DB 15;
Pred. No. 2.6e-33;
0; Mismatches 56;
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Pred. No. 1.4e-34;
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                                        457;
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0;

Indels

0;

Gaps

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NUMBER OF SEQ ID NOS: 51
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 9
LENGTH: 463
TYPE: DNA
ORGANISM: Parthenium argentatum Grey FEATURE:
NAME/KEY: misc_feature
LOCATION: 413
OTHER INFORMATION: n = A,T,C or G
US-10-178-449A-9
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US-10-178-449A-9
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Best Local Similarity
Matches 190; Conserv
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APPLICANT: Weng, Zude
TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
CURRENT FILING DATE: 2002-06-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
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APPLICANT: Herrmann, Rafael
APPLICANT: Lu, Albert L.
APPLICANT: McCutchen, Billy
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CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC
                                                         AGCTTGTCATGTGCGCGGGGGAAACACATGTGCTTCTGCTACTTCCAGTGCCCCAAAGC
                                                                                AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAAGC
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Rafalski, Jan antoni
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                                                                                                                                                                                                                                                                             Score 156.4; DB 15; Length Pred. No. 2.7e-33; O; Mismatches 56; Indels
                                                                                                                                                                                                                                                                                                                  Length
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TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/749123
FURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR FILING DATE: 2000-05-03
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
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US-10-178-449A-11
                                                                                        Sequence 21, Application US/10178449A Publication No. US20030140368A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 11, Application US/10178449A Publication No. US20030140368A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 190;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 11
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 APPLICANT:
APPLICANT:
                                                       APPLICANT: Famodu, Omolayo APPLICANT: Herrmann, Rafae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Famodu, Omolayo O. APPLICANT: Herrmann, Rafael
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                                                                                                                                                                                                                                                                                                                                     335 CGAAAAGCTTGCTCAAGACAAACTTAAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC
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 Herrmann, Rafa
Lu, Albert L
McCutchen, Bil
Miao, Guo-Hua
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Rafalski, Jan antoni
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                   Billy Fred
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Indels Length

0

Gaps

0

394 340

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SEQ ID NO 21
LENGTH: 458
LENGTH: 50A
PYPE: DNA
ORGANISM: Parthenium argentatum G:
FEATURE:
NAME/KEY: misc_feature
LOCATION: 322, 375, 402, 452
OTHER INFORMATION: n = A,T,C or G
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APPLICANT: Refalski, Jan antoni
APPLICANT: Weng, Zude
TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2000-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR PILING DATE: 1999-05-07
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
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APPLICANT: Rafalski, Jan antoni
APPLICANT: Weng, Zude
TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: PCT/US00/11952
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
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Publication No.
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Best Local Similarity 76.8%;
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SOFTWARE: FastSEQ for Windows Version 4.0
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Lu, Albert L.
McCutchen, Billy Fred
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Rafalski, Jan antoni
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les 57; Indels
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TITLE OF INVENTION: Sunflower Anti-Pathogenic Proteins and TITLE OF INVENTION: Genes and their Uses FILE REFERENCE: 5718-90
CURRENT APPLICATION NUMBER: US/10/636,396
CURRENT FILING DATE: 2003-08-07
PRIOR APPLICATION NUMBER: US/09/589,733C
PRIOR FILING DATE: 2000-06-08
PRIOR FILING DATE: 2000-06-08
PRIOR APPLICATION NUMBER: G0/140,646
PRIOR APPLICATION NUMBER: G0/162,904
PRIOR APPLICATION NUMBER: G0/162,904
PRIOR APPLICATION NUMBER: G0/162,904
PRIOR FILING DATE: 1999-06-23
PRIOR FILING DATE: 1999-11-01
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US-10-178-449A-17
                                                                                                                ; LENGTH: 565
; TYPE: DNA
; ORGANISM: Helianthus annuus
US-10-636-396-6
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                                            Query Match
Best Local Similarity
Matches 189; Conserv
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APPLICANT: Bidney, Dennis L.
APPLICANT: Crasta, Oswald R
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SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 17
LENGTH: 460
                                                                                                                                                                                NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 6, Application US/10636396 Publication No. US20040073971A1
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Best Local Similarity
Matches 189; Conserv
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NAME/KEY: misc_feature
LOCATION: 342
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155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA 214
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Lu, Guihua
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76.8%;
                                                              34.6%;
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                                          Score 154.2; DB 1/;
Pred. No. 1.2e-32;
Wismatches 58;
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Pred. No. 7.4e-33;
0; Mismatches 57;
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ÁGÁAATCGGÁTCGGTGÁAAGGÁGÁATTATGTGAGAAGGCAAGCCAGACATGGTCCGGAAC 158

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Sequence 6, Application US/10636026

Publication No. US20040111761A1

GENERAL INFORMATION:

APPLICANT: Bidney, Dennis L.

APPLICANT: Craste, Oswald R.

APPLICANT: Duvick, Jon

APPLICANT: Lu, Guihua

APPLICANT: Lu, Guihua

ITITLE OF INVENTION: Genes and their Uses

ITITLE OF INVENTION: USUAFILIANT USES

CURRENT APPLICATION NUMBER: US/10/636,026

CURRENT FILING DATE: 2003-08-07

PRIOR APPLICATION NUMBER: US/9/589,733C

PRIOR APPLICATION NUMBER: 60/140,646

PRIOR APPLICATION NUMBER: 60/140,646

PRIOR APPLICATION NUMBER: 60/140,646

PRIOR APPLICATION NUMBER: 60/162,904

PRIOR APPLICATION NUMBER: 60/162,904

PRIOR APPLICATION NUMBER: 60/162,904

PRIOR FILING DATE: 1999-06-23

PRIOR APPLICATION NUMBER: 60/162,904

PRIOR FILING DATE: 1999-11-01

SOFTWARE: FastSEQ for Windows Version 3.0
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US-10-636-026-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA ORGANISM: Helianthus annuus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 565
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CGAAAAG 345
                                   CCAAAAG 401
                                                                              CCAGAAGTTGGCTCAGGATAAACTCAGAGCGGAAGAGCTCGCCAAGGAGAAGATTGAACC
                                                                                                             CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC
                                                                                                                                                            AGCTTGTCACGTGCGCGATGGGAAACACATGTGCTTCTGCTACTTCAACTGTTCCAAAGC
                                                                                                                                                                                                AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
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76.5%;
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RESULT 13

APPLICANT: APPLICANT:

Lu, Albert L. McCutchen, Billy Fred Miao, Guo-Hua

APPLICANT: APPLICANT: TITLE OF IN

INVENTION: Plant Defensins

Presnail, James K. Rafalski, Jan antoni Weng, Zude

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PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR FILING DATE: 2000-05-03
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
SOFTWARE: FASESEQ for Windows Version 4.0
SEQ ID NO 19
                                                                                                                   RESULT 14
US-10-178-449A-23
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Sequence 23, Application US/10178449A
Publication No. US20030140368A1
GENERAL INFORMATION:
APPLICANT: Famodu, Omolayo O.
APPLICANT: Herrmann, Rafael
APPLICANT: Lu, Albert L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 19, Application US/10178449A Publication No. US20030140368A1 GENERAL INFORMATION:
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Best Local Similarity
Matches 188; Conserv
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APPLICANT:
APPLICANT:
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APPLICANT: Herrmann, Rafael
APPLICANT: Lu, Albert L.
APPLICANT: McCutchen, Billy Fred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/10/178,449A CURRENT FILING DATE: 2002-06-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Weng, Zude TITLE OF INVENTION: Plant Defensins FILE REFERENCE: 35718/249123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
NAME/CRY: misc_feature
LOCATION: 445, 452
OTHER INFORMATION: n = A,T,C or
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TYPE: DNA
ORGANISM: Parthenium argentatum Grey
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                                                                                                                                                                                                                                                                                                                                                          AGCTTGTCATGTGCGCGGTGGGAAACACATGTGCTTCTGCTACTTCCAGTGCCCCAAAGC
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Rafalski, Jan antoni
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 153.2; DB 15; Length 464; Pred. No. 2.1e-32;
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APPLICANT: HERMODIA, Omclayo O.
APPLICANT: Herrmann, Rafael
APPLICANT: Lu, Albert L.
APPLICANT: MCCUtchen, Billy Fred
APPLICANT: Miao, Guo-Hua
APPLICANT: Miao, Guo-Hua
APPLICANT: Miao, Guo-Hua
APPLICANT: Meng, Zude
TITLE OF INVENTION: Plant Defensins
FILE REFERENCE: 35718/249123
CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT APPLICATION NUMBER: US 10/030,516
PRIOR APPLICATION NUMBER: DE 10/030,516
PRIOR APPLICATION NUMBER: PS 10/030,516
PRIOR APPLICATION NUMBER: PS 10/030,516
PRIOR APPLICATION NUMBER: PS 10/030,516
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 2000-05-03
PRIOR FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
SOSTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 15
LENGTH: 439
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CURRENT APPLICATION NUMBER: US/10/178,449A
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR APPLICATION NUMBER: US 10/030,516
PRIOR FILING DATE: 2000-05-03
PRIOR FILING DATE: 2000-05-03
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR APPLICATION NUMBER: US 60/133,039
PRIOR FILING DATE: 1999-05-07
NUMBER OF SEQ ID NOS: 51
SOFTWARE: FRASTSEQ for Windows Version 4.0
SEQ ID NO 23
LENGTH: 472
TYPE: DNA
ORGANISM: Parthenium argentatum Grey
PRATURE:
NAME/KEY: misc_feature
LOCATION: 368
COTHER INFORMATION: n = A,T,C or G
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US-10-178-449A-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 188;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 472;
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ORGANISM: Parthenium argentatum Grey
FEATURE:
NAME/KEY: misc_feature
LOCATION: 276, 288, 349, 438
OTHER INFORMATION: n = A,T,C or G
                                                                                                                                                                                                                                                                                               Local Similarity
nes 192; Conserv
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Pred. No. 2.8e-28;
0; Mismatches 74;
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Search completed: March 18, 2005, 19:33:33 Job time : 422 secs

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•	153.2	153.2	153.2	153.2	154.2	154.8	154.8	154.8	154.8	156.4	156.4	156.4	156.4	156.4	156.4	157.8	161	164	165.6	165.6	166	166	166	166
32.9	34.3		34.3	34.3	34.6	34.7	34.7	34.7	34.7	35.1	35.1	35.1	35.1	35.1		35.4	36.1			37.1			37.2	37.2
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Aaz51375 Dahlia me	Adm77206 Mexican r	Aaa54397 Plant def	Adm77202 Mexican r	Aaa54395 Plant def	Sunfl	Adm77200 Mexican r	Aaa54394 Plant def	Adm77204 Mexican r	Aaa54396 Plant def	Adm77194 Mexican r	Aaa54391 Plant def	Adm77192 Mexican r	Aaa54390 Plant def	Adm77196 Mexican r	Aaa54392 Plant def	Aaz51376 Dahlia me	Adm77229 Sunflower	Aaz99337 DNA encod	Aaz99328 DNA of pr	Aaz51397 Portion o	Aaz99339 DNA encod	Aaz99338 DNA encod	Aaz99330 DNA encod	Aaz99331 DNA encod

ALIGNMENTS

## AAZ51379 standard; DNA; Antimicrobial protein; Dm-AMP1; transgenic plant; microbial infection; bacteria; fungi; field crop; fruit; vegetable; canola; banana; sunflower; apple; ds. Dahlia merckii antimicrobial protein Dm-AMP1 gene 06-JUN-2000 AAZ51379; Dahlia merckii. sig\_peptide (first entry) /\*tag= partial /product= "Antimicrobial protein Dm-AMP1" /note= "Does not include stop codon" Location/Qualifiers \*tag= a 446 BP

exon

mat\_peptide

177. .326 157. .446 /\*tag= d

\*tag=

number=

misc\_feature

/product= "Mature 327. .446

Dm-AMP1 protein"

/\*tag= g /note= "Encodes protein which may be used as cleavable /inker in the co-expression of multiple proteins"

WO200011196-A1.

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65. .156

\*tag=

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note= "excludes intron'

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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is a Dahlia merckii cDNA encoding an antimicrobial preproprotein Dm-ANP1. This sequence is useful in the production of transgenic plants which show improved resistance to infections by microorganisms such as bacteria and fungi. Transgenic plants include e.g. field crops, fruits and vegetables, such as canola, sunflower, tomato,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Polynucleotide sequences and expression products useful for producing transgenic plants that are resistant to microbial infections.
                                                              AAZ99323;
                                                                                                AAZ99323 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 446 BP; 128 A; 86 C; 104 G; 128
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P-PSDB; AAY70315.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATGCGAGAAAGCTAGCAAGACATGGTCGGGAAAACTGTGGCAATACGGGACATTGTGACA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGGTTATCAAATCTTTAGTTCATTTATTGAATATGATAGTATTTATATTCTTTTATGG
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                                                                                                                                                                                                                                                                         AAGCCGAACAACTCGCTCAAGACAAACTTAATGCCCAAAAGCTTGACCGTGATGCCAAGA
                                                                                                                                                                                                                                                                                                                                                     ACATGTGTTTCTGTTACTTCAATTGTAAAAAAAGCCGAAAAGCTTGCTCAAGACAAACTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGTGAATCGGTCGGTTCCTCCGCGTTCGTTCTGATCCTTTTCGTGCTCGCCATC
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                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              T; 0 U; 0 Other;
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Best Local Similarity
Matches 446; Conserv
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comprising a cleavage site, whereby the expressed polyprotein is post-translationally processed into the component protein molecules. The propeptide sequence is rich in amino acids A, V, S and T and contains dipeptidic sequences consisting of either two acidic, two basic or one acidic and one basic residue as a cleavable linker sequence

The

Sequence 446 BP; 128 A; 86 C; 104 G; 128 T; 0 U; 0 Other;

121 TTTTATGTGTTCTGACAAGTTGCAAATATTGAGTAGATATCGCATCCGTTAGTGGAGAAC

180 120 120 6 60 0

TCAGGTTATCAAATCTTTAGTTCATTTATTGAATATGAATAGTATTTATATTCTTTTATGG TCAGGTTATCAAATCTTTAGTTCATTTATTGAATATGATAGTATTTATATTCTTTTATGG

1 ATGGTGAATCGGTCGGTTCGCGCGTTCCTGATCCTTTTCGTGCTCCGCCATC

Conservative

0,

Mismatches

0

0;

Gaps

100.0%;

Score 446; DB 3; Pred. No. 9.9e-113;

Length 446; Indels

ATGGTGAATCGGTCGGTTCTCCCGCGTTCGTTCTGATCCTTTTCGTGCTCGCCATC

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The present sequence encodes a Dahlia antimicrobial protein (AMP) 1. 71 AMP1 protein is used to produce transgenic plants, using the method of the invention. The specification describes methods for improving expression levels of one or more proteins in a transgenic plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions esparated by a DNA sequence coding for a linker propeptide and a terminator region. The method is used to produce proteins in plants. The linker propeptide
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                                                                                                                                                                                      Example 1; Fig 1; 151pp; English
                                                                                                                                                                                                                         Improving expression two or more proteins
                                                                                                                                                                                                                                                                                                                                                   Broekaert WF,
                                                                                                                                                                                                                                                                                                                                                                                                                                   18-AUG-1998;
04-DEC-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA encoding the Dahlia antimicrobial protein 1 (AMP1).
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                                                                                                                                                                                                                                                                                                             2000-246564/21.
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                                                                                                                                                                                                                                                                                                                                                     Francois
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98GB-00026753
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/*tag= c
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177. .314
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157. .446
/*tag= d
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single
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transcription unit
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Dahlia merckii.
                                                                    WPI; 2000-246564/21.
P-PSDB; AAY84059.
                                                                                                                                        18-AUG-1998;
04-DEC-1998;
                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                       Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RBAFP2; antifungal protein; AFP2; ss.
                  Example 2; Fig 11; 151pp; English
                                     Improving expression of polyproteins in plants involves coexpression two or more proteins in plants within a single transcription unit.
                                                                                                 Broekaert WF, Francois IEJA,
                                                                                                                                                                                          02-MAR-2000.
                                                                                                                                                                                                             WO200011175-A1
                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                  Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding a fusion protein of DmAMP1 and RsAFP2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                               AAZ99326;
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                                                                                                                                                                      17-AUG-1999;
                                                                                                                     (ZENE ) ZENECA
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                                                                                                                                       98GB-00018001
98GB-00026753
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160. .309
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/note= "encodes DmAMP1"
442. .594
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                                                                                                                                                                                                                                 'note= "encodes RsAFP2"
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The present sequence encodes a protein of the invention, comprising the

(ZENE ) ZENECA LTD.

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Best Local Similarity
Matches 289; Conserv
                                                                                                                                                                                                                                                 Synthetic.
Dahlia merckii.
Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mature proteins of the plant defensins, the Dahlia antimicrobial protein (AMP) 1 and the antifungal protein 2 (AFP2), linked by a linker propeptide of the invention. The specification describes methods for improving expression levels of one or more proteins in a transgenic plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions separated by a DNA sequence coding for a linker propeptide and a terminator region. The method is used to produce proteins in plants. The linker propeptide comprising a cleavage site, whereby the expressed polyprotein is posttranslationally processed into the component protein molecules. The propeptide sequence is rich in amino acids A, V, S and T and contains dipeptidic sequences consisting of either two acidic, two basic or one acidic and one basic residue as a cleavable linker sequence
                                18-AUG-1998;
04-DEC-1998;
                                                                                                                                                                                                                                                                                                             Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RsAFP2; antifungal protein; AFP2;
                                                                                                                                                                                                                                                                                                                                                             DNA encoding a fusion protein of DmAMP1 and RsAFP2.
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                                                                               17-AUG-1999;
                                                                                                            02-MAR-2000.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAAAAGCTTGACCGTGATGCCAAGAAAGTGGTTCCAAACGTTGAACATCCG 446
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
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                                98GB-00018001.
98GB-00026753.
                                                                             99WO-GB002716
                                                                                                                                                                                   /*tag=
                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                      /product= "fusion protein of DmAMP1 and RsAFP2"
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Pred. No. 6.1e-69;
0; Mismatches 3
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RESULT 5
AAZ51396
ID AAZ5
XX AAZ5
XX AAZ5
XX O6-J
DT O6-J
XX Anti
KW Anti
KW Aptl
XX Aptl
OS Dahl
OS Synt
XX Synt
XX Key
FT CDS
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Best Local S
Matches 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence encodes a protein of the invention, comprising the mature proteins of the plant defensins, the Dahlia antimicrobial protein (AMP) 1 and the antifungal protein 2 (RBAFF2), linked by a linker propeptide of the invention. The specification describes methods for improving expression levels of one or more proteins in a transgenic plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions separated by a DNA sequence coding for a linker propeptide and a terminator region. The method is used to produce proteins in plants. The linker propeptide comprising a cleavage site, whereby the expressed polyprotein is post-translationally processed into the component protein molecules. The propeptide sequence is rich in amino acids A, V, S and T and contains dipeptidic and one basic residue as a cleavable linker sequence
                                                                                                          Antimicrobial protein; DmAMP; transgenic plant; bacteria; fungi; field crop; fruit; vegetable; apple; plant transformation vector; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Improving expression two or more proteins
                                                              Synthetic.
                                                                             Dahlia merckii.
                                                                                                                                                                        Portion
                                                                                                                                                                                                       06-JUN-2000
                                                                                                                                                                                                                                                                   AAZ51396 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 31; 151pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Broekaert WF,
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                                                                                                                                                                                                                                                                                                                                             CCAAAAGCTTGACCGTGATGCCAAGAAAGTGGTTCCAAACGTTGAACATCCG
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                                                                                                                                                                     pFAJ3106 encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                       (first
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/*tag= a
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                                                                                                                                                                                                                                                                   ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 284; DB 3;
Pred. No. 4.5e-68;
                                                                                                                                                                       Dahlia merckii antimicrobial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            De
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                                                                                                                           canola;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 557;
                                                                                                                                          microbial infection
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                                                                                                                           banana;
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                                                                                                                                                                        protein.
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                                                                                                                                                                                                                                                                                                                                             356
                                                                                                                           sunflower;
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Best Local Similarity
                                                                                                                                              Synthetic.
Dahlia mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence corresponds to the region between XhoI and SacI sites of plant transformation vector pRAJ3106, which encompass the codin region for Dahlia merckii antimicrobial protein, Dm-ANPI. The vector is useful in the production of transgenic plants which show improved resistance to infections by microorganisms such as bacteria and fungi. Transgenic plants include e.g. field crops, fruits and vegetables, such as canola, sunflower, tomato, apple, banana, pear and mango
                                                                                                                     Unidentified
                                                                                                                                                                                                                                 Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RsAFP2; antifungal protein; A
                                                                                                                                                                                                                                                                                                                        DNA encoding
                                                                                                                                                                                                                                                                                                                                                                                         03-JUL-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 534 BP; 164 A; 118 C; 122 G; 130 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 3; Fig 7; 77pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Polynucleotide sequences and expression products useful for producing transgenic plants that are resistant to microbial infections.
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                                                                                                                                                 merckii.
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                                                                                                                                                                                                                                                                                                                              protein
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                                                                                                                                                                                                                                                                                                                              of DmAMP1
                                                                                                                                                                                                                                                                                                                              and RsAFP2
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                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity Matches 217; Conserv
                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
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03-JUL-2000
                             AAZ99335;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 534 BP; 164 A; 118 C; 122 G; 130 T; 0 U; 0 Other;
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04-DEC-1998;
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                                                           AAZ99335 etandard; DNA; 485
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-AUG-1999;
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                                                                                                                                                                                                                                                                                                                                     AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
                                                                                                                                                                                                                          AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC 334
                                                                                                                                                                                                                                                        CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                                                                                                                                                    AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
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(first entry)
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98GB-00026753
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/note= "encodes RsAFP2"
                                                                                                                                                                                                                                                                                                                                                                                          48.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              polyproteins in plants plants within a single
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                                                           ВP
                                                                                                                                                                                                                                                                                                                                                                              <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                            Score 215.2; DB
Pred. No. 4e-49;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                         Length 534;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                          improving expression levels of one or more proteins in a transgenic plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions separated by a DNA sequence coding for a linker propeptide and a terminator region. The method is used to produce proteins in plants. The linker propeptide comprising a cleavage site, whereby the expressed polyprotein is post-translationally processed into the component protein molecules. The propeptide sequence is rich in amino acids A, V, S and T and contains dipeptidic sequences consisting of either two acidic, two basic or one acidic and one basic residue as a cleavable linker sequence
                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence encodes a protein of the invention, comprising the mature proteins of the plant defensins, the Dahlia antimicrobial protein (AMP) 1 and the antifungal protein 2 (RSAFP2), linked by a linker propeptide of the invention. The specification describes methods for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-246564/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Broekaert WF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dahlia merckii.
Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RsAFP2; antifungal protein; AFP2; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Fig 30; 151pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein expression; plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA encoding a fusion protein of DmAMP1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Improving expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-AUG-1999;
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                                                                                                                                    125
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                                                                                           AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
                                                                                                                                                           CTGTGGCAATACGGGACATTGTGAACAACCAATGTAAATCATGGGAGGGTGCGGCCCCATGG
                                                                                                                                                                                                                        AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
                                                                                                                                                                                                                                                                                                                    485 BP; 139
                 CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTC
                                  CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTC
                                                                         AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAGC
                                                                                                                                    CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCTCACGG
                                                                                                                                                                                              AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
                                                                                                                                                                                                                                                        Conservative
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98GB-00026753
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
                                                                                                                                                                                                                                                                    47.5%;
97.7%;
                                                                                                                                                                                                                                                                                                                  A; 104 C; 128 G; 114 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of polyproteins in plants in plants within a single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IEJA,
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                                                                                                                                                                                                                                                                      Score 212; DB 3; Pred. No. 3e-48;
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                                                                                                                                                                                                                                                                                   Length 485;
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Best Local Similarity
Matches 240; Conserv
                                                                                                                                                                                                                                                                                                                                                                EST, expressed sequence tag or an EST contig) encoding a plant defensin or its mature form, or the complement of them. Also included are a DNA construct comprising the novel nucleic acid (operably linked to a promoter that drives expression in a host cell), an expression cassette comprising the DNA construct, a host cell having stably incorporated into its genome the DNA construct, an isolated polypeptide and impacting a plant pathogen e.g. soybean cyst nematode (Sclerotinia sclerotiorum). The nucleic acid construct is useful for preparing a composition for treating fungal infections, e.g. Candidiasis. The present sequence is either an EST (expressed sequence tag) or an EST contig encoding a plant defensin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ironweed; ss; EST; expressed sequence tag; defensin; soybean cyst nematode; pesticide; plant; plant pathogen; sclerotinia sclerotiorum; fungal infection; Candidiasis.
                                                                                                                                                                                                                                                                                                                       Sequence 529 BP; 178 A; 88 C; 111 G; 148 T; 0 U; 4 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New nucleic acid molecule, useful for preparing a composition treating fungal infections, e.g. Candidiasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to an isolated nucleic acid molecule (either an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rafalski JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Famodu 00,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-OCT-2001; 2001US-00030516.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JUN-2002; 2002US-00178449
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-JUN-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ironweed cDNA encoding mature defensin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (PION-) PIONEER HI-BRED INT INC
                                                                                                                                                                                                                                                                                                                                                        its mature form.
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                                                               198
                                                                                                                             138
                                                                                                                                                             215
                                                                                                                                                                                                             155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
                                                                                                                                                                                            78
TGAAAAACTCGCTCAAGATAAGCTAAAAGCAGAAGAGCTTGCTAAAGACAAACTCAAGGC
                            CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC
                                                                                             AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
                                                                                                                           CTGTGGCAACACAGGACATTGTGATAATCAGTGTAAGTCATGGGAGGGTGCAGCCCATGG
                                                                                                                                                      CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                           AGAAATCTCGAGTGTGAGAGCAGAGCTATGCGAGAAAGCTAGCAAGACATGGTCAGGCAA
                                                             AGCTTGTCATGTGCGTGGAGGGAAACACATGTGCTTTTGTTATTTCAATTGTAAAAAAAGC
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                                                                                                                                                                                                                                                          Conservative
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82.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lu AL,
                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                         Score 209.4; DB 11;
Pred. No. 1.6e-47;
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                                                                                                                                                                                                                                                                                        529;
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                                                                                                                                                                                                                                                                                                                                             Best Local Sim
Matches 236;
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to an isolated nucleic acid molecule (either an EST, expressed sequence tag or an EST contig) encoding a plant defensin or its mature form, or the complement of them. Also included are a DNA construct comprising the novel nucleic acid (operably linked to a promoter that drives expression in a host cell), an expression cassette comprising the DNA construct, an host cell having stably incorporated into its genome the DNA construct, an isolated polypeptide and impacting a plant pathogen e.g. soybean cyst nematode (Sclerotinia sclerotiorum). The nucleic acid construct is useful for preparing a composition for treating fungal infections, e.g. Candidiasis. The present sequence is either an EST (expressed sequence tag) or an EST contig encoding a plant defensin
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 579 BP; 198 A; 97 C; 117 G; 167 T; 0 U;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; SEQ ID NO 31; 69pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New nucleic acid molecule, useful for preparing treating fungal infections, e.g. Candidiasis.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-OCT-2001; 2001US-00030516.
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                                                                                                               152
                                                                                                                                                                                                                                                               155 AGATATCGCATCCGTTAGTGGAGAAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               395
                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                                                                 AGAAATCTCGAGTGTGAGAGCAGAGCTATGCGAGAGAGCTAGCAAGACATGGTCAGGCAA
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                                                      AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
                                                                                                               CTGTGGCAACACAGGACATTGTGATAATCAGTGTAAGTCATGGGAGGGTGCAGCCCATGG
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                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                     45.5%;
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                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                                                                                                                                     Score 203; DB 11;
Pred. No. 9.5e-46;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                          Gaps
271
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ARESULT 10
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Query Match
Best Local Similarity
Matches 234; Conser
                                                                                                                                                              The present sequence is a Dahlia merckii cDNA encoding an antimicrobial preproprotein Dm2.5. This sequence is useful in the production of transgenic plants which show improved resistance to infections by microorganisms such as bacteria and fungi. Transgenic plants include e.g. field crops, fruits and vegetables, such as canola, sunflower, tomato,
                                                                                                                                                                                                                                                                                                                                                                 Polynucleotide sequences and expression products useful for producing transgenic plants that are resistant to microbial infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Evans IJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antimicrobial protein; DmAMP; Dm2.5; transgenic plant; microbial infection; bacteria; fungi; field crop; frui canola; banana; sunflower; apple; ss.
                                                                                                                                                                                                                                                                                                                   Claim 1; Fig 3; 77pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-MAR-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200011196-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dahlia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dahlia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAZ51378
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                                                                                              Sequence
                                                                                                                                            field crops, fruits and vegetables, apple, banana, pear and mango
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ZENE ) ZENECA
                                                                                                                                                                                                                                                                                                                                                                                                                                              2000-237658/20.
DB; AAY70314.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                merckii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             merckii
                                                                                                 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATAAGTTTGACCATGATGCAAAAGAAGTAGTACCAAATGTCGAACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAAAAGCTTGACCGTGATGCCAAGAAAGTGGTTCCAAACGTTGAACATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGAAAAACTCGCTCAAGATAAGTTAAAAGCTGAAGAGCTTGCAAAAGACAAACTCAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ray JA;
  Conservative
                                                                                              BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             antimicrobial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98GB-00018003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-GB002720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104. .253
/*tag= c
/product=
254. .343
                                                                                                 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "Encodes protein which may be used as cleavable
linker in the co-expression of multiple proteins"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product= "Antimicrobial protein Dm2/note= "Preproprotein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 103
                                                                                            A, 96 C;
                       39.7%;
80.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Mature
<u>,,</u>
Score 177.2; DB 3
Pred. No. 1.2e-38;
0; Mismatches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ВÞ
                                                                                              140 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dm2
                                                                                              163 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dm2.5 cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein"
                                           DB 3;
                                           Length 577;
  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fruit; vegetable;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
ហ្ន
30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     382
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Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAZ99333
                                                                                                                                                                                                                                                    Improving expression
two or more proteins
                                                                                                                                                                                                                                                                                                                                                                                      Broekaert WF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-AUG-1998;
04-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dahlia merckii.
Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein expression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antimicrobial
                                                                                                                                                                                                                                                                                                                        P-PSDB;
                                                                                                                                                                                                                                                                                                                                            WPI; 2000-246564/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-MAR-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200011175-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                (ZENE )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 encoding a fusion protein of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       395
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292
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                                                                                                                                                                                                                                                                                                                           AAY84066.
                                                                                                                                                                                                                                                                                                                                                                                                                                ZENECA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAAAAGCTTGACCGTGATGCCAAGAAAGTGGTTCCAAACGTTGAACATCCG 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAAGAGCTTGACCGTGATGCCAAGAAAGTGATTCCGAACGTTGAACATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGAAAAGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCGTGCCACGTGCGTGGAGGGAAACACATGTGTTTCTGCTACTTCAAGTGTCCCAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTGGCAACACGGGACACTGTGACAACCAATGTAAATACTGGGAGGGGGGGCCCCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein;
                                                                                                                                                                                                                                                                                                                                                                                    Francois
                                                                                                                                                                                                                                                                                                                                                                                                                                LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98GB-00018001
98GB-00026753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-GB002716
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/product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in; AMP1; transgenic plant; linker propeptide;
plant defensin; RsAFP2; antifungal protein; A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                        inof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       485
                                                                                                                                                                                                                                                        polyproteins : plants within
                                                                                                                                                                                                                                                                                                                                                                                      IEJA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "fusion
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                                                                                                                                                                                                                                                                                                                                                                                      Þe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DmAMP1 and RsAFP2.
                                                                                                                                                                                                                                                                                                                                                                                      Bolle MFC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                        in plants
n a single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DmAMP1
                                                                                                                                                                                                                                                                                                                                                                                      Evans IJ,
                                                                                                                                                                                                                                                        involves coexpression transcription unit.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                                                      Ray
                                                                                                                                                                                                                                                                                                                                                                                      JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AFP2;
                                                                                                                                                                                                                                                                                 ō,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
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The present sequence encodes a protein of the invention, comprising the mature proteins of the plant defensing. The Dahlia antimicrobial protein (AMP) 1 and the antifungal protein 2 (AFP2), linked by a linker propeptide of the invention. The specification describes methods for improving expression levels of one or more proteins in a transgenic plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions separated by a DNA sequence coding for a linker propeptide and a terminator region.

The method

is used to

produce proteins

plants.

propeptide

Disclosure;

Fig 28; 151pp; English.

Disclosure;

Fig

24; 151pp; English

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AZ299329
ID AAZ2
XX
AC AAZ2
AC AAZ2
XX
DA DNA
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CDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local &
                                                                                                                                                                                                                                                18-AUG-1998;
04-DEC-1998;
                                                                                                                                                                                                                                                                                                                        17-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
Dahlia merckii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              comprising a cleavage site, whereby the expressed polyprotein is post-
translationally processed into the component protein molecules. The
propeptide sequence is rich in amino acids A, V, S and T and contains
dipeptidic sequences consisting of either two acidic, two basic or one
acidic and one basic residue as a cleavable linker sequence
Improving expression two or more proteins
                                                                       WPI; 2000-246564/21.
P-PSDB; AAY84062.
                                                                                                                                               Broekaert WF,
                                                                                                                                                                                                                                                                                                                                                                                                                         WO200011175-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RsAFP2; antifungal protein; AFP2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA encoding a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAZ99329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAZ99329 standard; DNA; 446
                                                                                                                                                                                               (ZENE ) ZENECA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             305
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         206;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TG 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TG 393
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAAAAGCTTGCTCAAGACAAACTTAAAG----CCGAACAACTCGCTCAAGACAAACTTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTGCTAACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCTCACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          485
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAGCTAGCAAGACGTGGTCGGGCAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                  LTD.
                                                                                                                                                 Francois
                                                                                                                                                                                                                                                98GB-00018001
98GB-00026753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   fusion protein of
                                                                                                                                                                                                                                                                                                                          99WO-GB002716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
3. .437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= a
/product= "fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38.8%;
  in
                                                                                                                                               IEJA,
polyproteins in plants involves coexpression plants within a single transcription unit.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 173.2;
Pred. No. 1.5
                                                                                                                                                 De
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DmAMP1 and RsAFP2
                                                                                                                                               Bolle MFC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .5e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of DmAMP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33;
                                                                                                                                                 Evane
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                               Į,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RsAFP2"
                                                                                                                                               Ray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ω
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                         of.
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RESULT 13
AAZ99334
ID AAZ99334
AC AAZ9934
AC AAZ99
XX AAZ99
XX AAZ99
XX DNA e
XX Antim
KW prote
XX Antim
KW prote
XX Spnth
OS Dahli
OS Unide
XX Unide
XX Unide
XX Unide
XX TOS
FT CDS
FT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic.
Dahlia merckii.
Unidentified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence encodes a protein of the invention, comprising the mature proteins of the plant defensins, the bahlia antimicrobial protein (AMP) 1 and the antifungal protein 2 (APP2), linked by a linker propeptide of the invention. The specification describes methods for
                                                         18-AUG-1998;
04-DEC-1998;
                                                                                                                                          17-AUG-1999;
                                                                                                                                                                                                      02-MAR-2000
                                                                                                                                                                                                                                                            WO200011175-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RBAFP2; antifungal protein; AFP2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAZ99334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAZ99334 standard; DNA; 1093 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 446 BP; 111 A; 102 C; 123 G; 110 T; 0 U; 0 Other;
(ZENE ) ZENECA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 180; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  215
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAACGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
   LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fusion protein
                                                            98GB-00026753
                                                                                    98GB-00018001
                                                                                                                                          99WO-GB002716.
                                                                                                                                                                                                                                                                                                            /*tag= a
/product= "fusion protein of plant defensins"
                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                 /*tag=
                                                                                                                                                                                                                                                                                                                                                                               .1085
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 172.2; DB 3 Pred. No. 2.7e-37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of DmAMP1, RsAFP2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HsAFP1 and
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions separated by a DNA sequence coding for a linker propeptide and a terminator region. The method is used to produce proteins in plants. The linker propeptide comprising a cleavage site, whereby the expressed polyprotein is post-translationally processed into the component protein molecules. The propeptide sequence is rich in maino acids A, V, S and T and contains dispetidic sequences consisting of either two acidic, two basic or one acidic and one basic residue as a cleavable linker sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence encodes a protein of the invention, comprising the mature proteins of the plant defensins, the Dahlia antimicrobial protein (AMP) 1, antifungal protein 2 (RARP2), HBAFP1, and AceAMP1, linked by linker propeptides of the invention. The specification describes methods for improving expression levels of one or more proteins in a transgenic for improving expression levels of one or more proteins in a transgenic
                                                                                                                                                                                                                                               Antimicrobial protein; AMP1; transgenic plant; linker propeptide; protein expression; plant defensin; RsAFP2; antifungal protein; AFP2; ss
                                                                                                                         Dahlia merckii.
Unidentified.
                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                              DNA encoding a fusion protein of DmAMP1 and RsAFP2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAZ99324 standard; DNA;
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                             misc_feature
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGAGGAAGCTGCTGCTATTCCTGAAGCTTCTGAAGAACTTGCTCAAGAAGAAGCTCC 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGAAAAGCTTGCTCAAGACAAACTTAAAG----CCGAACAACTCGCTCAAGACAAACTTAA 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCTCACGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29; 151pp; English.
                             Location/Qualifiers
160. .309
                                                                                                                                                                                                                                                                                                                                                                                                            entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  38.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             De Bolle MFC,
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AAA54387
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BXGXAXU

11-APR-2001 (first entry)

Plant defensin coding sequence.

AAA54387 standard; DNA; 460

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                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                        propeptide of the invention. The specification describes methods for improving expression levels of one or more proteins in a transgenic plant. The method comprises inserting a DNA sequence having a promoter region operably linked to two or more protein encoding regions separated by a DNA sequence coding for a linker propeptide and a terminator region. The method is used to produce proteins in plants. The linker propeptide comprising a cleavage site, whereby the expressed polyprotein is posttranslationally processed into the component protein molecules. The propeptide sequence is rich in amino acids A, V, S and T and contains dipptidic sequences consisting of either two acidic, two basic or one acidic and one basic residue as a cleavable linker sequence
                                                                                                                                                                                                                                                                                                                   Sequence 522 BP; 147
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P-PSDB; AAY84057.
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04-DEC-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence encodes a protein of the invention, comprising the mature proteins of the plant defensins, the ballia antimicrobial protein (AMP) 1 and the antifungal protein 2 (AMP2), linked by a linker propeptide of the invention. The specification describes methods for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2;
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318 TG 319
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                                                                                     AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAACC
                                                            AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTTCCAACGC
                                                                                                                           CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                        CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                        AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
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                               336
                                                                                                                                                                                                                                                      Conservative
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98GB-00026753.
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358. .510
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                                                                                                                                                                                                                                                                   37.9%;
                                                                                                                                                                                                                                                                                                                 A; 119 C; 127 G; 129 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of polyproteins in plants involves coexpression of in plants within a single transcription unit.
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                                                                                                                                                                                                                                                                                    Length 522;
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                                                                                                                                                                                                                                                                                                                                                                                  Nucleotides encoding plant defensins can be used to create transgenic plants in which plant defensin polypeptides are present at higher or lower levels than normal, or in cell types or developmental stages in which they are not normally found. This has the effect of altering the level of disease (e.g. fungal) resistance and stress tolerance in those cells. The defensin polypeptides are useful for immunising animals to produce polyclonal or monoclonal antibodies. These antibodies are useful for screening cDNA expression libraries to isolate full-length plant defensin cDNA clones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Isolated polynucleotides encoding plant defensins, useful for creating transgenic plants with higher or lower levels of defensin polypeptides, especially for increasing disease (e.g. fungal) resistance and stress
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P-PSDB; AAB04046.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-MAY-2000; 2000WO-US011952
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Defensin; disease; fungus; resistance; transgenic plant; vaccine; immunisation; antibody; crop protection; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tolerance.
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                                                                                                                                          147
                                  335 CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATG 393
                                                                   207 TGCGTGTCATGTGCGTGGGGAAACACATGTGCTTCTGCTACTTCAATTGTAAAGAAGC
                                                                                                    275 AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
                                                                                                                                                            215 CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                                                                155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGGAAA
                                                                                                                                                                                                            87
CGAAAAGCTTGCCCAAGACAAGCTCAACGCTGAAAAATTCGGCCGTGATGACGTTAAAG
                                                                                                                                      CTGTGGCAACACGGGACACTGTGACGACCAGTGTAAGTCGTGGGAGACTGCAGCCCATGG
                                                                                                                                                                                                            AGAAATCGCGACTGTGAGAAGTGCACTATGTGAGAAAGCTAGCAAGACATGGTCAGGCAA 146
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25. .351
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/product= "Plant defensin"
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Search completed: March 18, Job time: 388 Becs

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A26906 C.benedictu	I23718 Sequence 31	BD240920 Polynucle	AR130262 Sequence	AR050143 Sequence	A39543 Sequence 31	merkii A		BD240917 Polynucle		BD240915 Polynucle	AX046765 Sequence			AR452919 Sequence	AF364865 Helianthu	AX046759 Sequence	AX046763 Sequence	w		AX046755 Sequence	BD240916 Polynucle	BD223247 Method of	Polynucl	BD223238 Method of	BD223249 Method of

## ALIGNMENTS

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Wethod of genetic expression of F
BD223232

BD223232.1 GI:33033002

JP 2002523047-A/1.

Dahlia merckii (bedding dahlia)

Dahlia merckii
                                                                                                                                                                                                                                                                                                                                                            PI MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY EVANS, JOHN P. PC C12R1:91), PC C12N15/00, C12N5/00, (C12N5/00, C12N5/00, C12N5/00, C12N5/00, C12N5/00, (C12N5/00, C12N5/00, C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PN JP 200253347-A/1
PD 30-JUL-2002
PF 17-AUG-1999 JP 2000566429
PR 18-AUG-1998 GB 9818001.1,04-DEC-1998
WILLEM FRANS BROEKAERT, ISABELLE ELSA JEANNE
AUGUSTINE FRANCOIS,
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OS Dahlia merckii
PN JP 2002523047-A/1
PD 30-JUL-2002
PF 17-AUG-1999 JP 2000566429
PF 17-AUG-1998 GB 9818001.1,04-DEC-1998 GB 91
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Broekaert, W.F., Francois, I.E.J.A., Bolle, M.F.C.D., Evans, I.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Viridiplantae; Streptophyta; Embryo
Spermatophyta; Magnollophyta; eudicotyledons;
asterids; campanulids; Asterales; Asteraceae;
Coreopsideae; Dahlia.
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Method of genetic expression of polyprotein
Location/Qualifiers
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Location/Qualifiers
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                              /organism="Dahlia merckii"
/mol_type="genomic DNA"
/db_xref="taxon:43367"
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PC C1
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Evans, I.J. and Ray, J.A.
Polynucleotide sequences
Patent: JP 2002523052-A 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheo Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; asterrids; campanilids; Asterales; Asteraceae; Asteroideae; Coreopsideae; Dahlia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dahlia merckii (bedding dahlia)
Dahlia merckii
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BD240919
BD240919.1 GI:33050689
JP 2002523052-A/5.
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18-AUG-1998 GB 9818003.7
IAN JEFFEX EVANS, JOHN ANTHONY RAY
C12N15/09, A01H5/00, C07K14/415, C12N5/10/(C12N5/10, C12R1:91),
C12N15/00,
C12N15/00,
                                                                                                                                                                                                                                                                                                                                                                                                                              Dahlia merckii (dahlia)
JP 2002523052-A/5
30-JUL-2002
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llarity 100.0%;
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                                                                                                                  Location/Qualifiers
(1). (64)
(157). (446).
Location/Qualifiers
              /organism="Dahlia merckii"
/mol_type="genomic DNA"
/db_xref="taxon:43367"
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
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                                                                                     PI MIGUEL FRANCES, PI MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY EVANS, JOHN F ANTHONY RAY PC C12N15/09, A01H1/00, C07K1/12, C12N5/10, C12P21/02//(C12N5/10, C12R1:91), PC C12N15/00, C12N5/00, C
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PD 30-JUL-2002

PF 17-AUG-1999 JP 2000566429

PR 18-AUG-1998 GB 9818001.1,04-DEC-1998 GB

WILLEM FRANS BROEKAERT, ISABELLE ELSA JEANNE
AUGUSTINE FRANCOIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other sequences; artificial sequences.
1 (bases 1 to 606)
Broekaert, W.F., Francois, I.E.J.A., Bol
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Pred. No. 7.4e-105;
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Best Local S
Matches 287
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Best Local S
Matches 289
                                                                                                                                                                                                                                                                                                                                                            TITLE
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                                                                                                                                  Bource
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OS Artificial Sequence
PN JP 2002523047-A/15
PD 30-JUL-2002
PF 17-AUG-1999 JP 2000566429
PF 17-AUG-1999 GB 9818001.1,04-DEC-1998 GB
WILLEM FRANCISSON SERVICES ELSA JEANNE
AUGUSTINE FRANCESCO COLETA DE BOLLE, IAN JEFFR
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289; Conservative
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PC C12N15/
C12R1:91),
PC C12N15/
CC Descrip
Key
FT CDS
                                                                                                                                                                                                                                                                                                                                                                           synthetic construct other sequences; artificial sequences.
1 (bases 1 to 557)
Broekaert, W.F., Francois, I.E.J.A., Bolle, M.F.C.D.,
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                                                                                                                                                                                                                                                                                                                                              Method of genetic expression of polyprotein in plant Patent: JP 2002523047-A 15 30-JUL-2002;
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                                                                                                                                                      C12N15/00,C12N5/00,(C12N5/00,C12R1:91)
Description of Artificial Sequence: Sy
Location/Qualifiers
CDS (3) (548)
                                                                                                                                                                                                                             MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY
                                      Conservative
                                                                                                                                                                                                                  C12N15/09, A01H1/00, C07K1/12, C12N5/10, C12P21/02// (C12N5/10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           46 557 of genetic expression
                                                                                            /organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"
                                                                                                                                            Location/Qualifiers
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/db_xref="taxon:32630"
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                                                 63.7%;
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                                   Score 284; DB 6; Length 557; Pred. No. 7.6e-63; O; Mismatches 5; Indels
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Pred. No. 1.1e-63;
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Matches 217; Conser
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WILLEM FRANS BROEKSERT, ISABELLE ELSA JEANNE
AUGUSTINE FRANCOIS,
PI MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY EVI
ANTHONY RAY
PC C11N15/09, A01H1/00, C07K1/12, C12N5/10, C12P21/02//
PC C12N15/00, C12N5/00, (C12N5/00, C12R1:91)
PC C11N15/00, C12N5/00, (C12N5/00, C12R1:91)
PC C1N15/00, (C12N5/00, C12R1:91)
PC C1N15
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1 (bases 1 to 534)

Broekaert, W.F., Francois, I.E.J.A., Bolle, M.F.C.D.,
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                                                CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
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AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAAGC
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Artificial Sequence

JP 2002523047-A/3
30-JUL-2002
17-AUG-1999 JP 2000566429
18-AUG-1998 GB 9818001.1,04-DEC-1998
18-AUG-1998 GB 7818001.1
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/mol_type="genomic DNA"
/db_xref="taxon:32630"
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Pred. No. 5.2e-45;
0; Mismatches 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       534;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EVANS, JOHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Evans, I.J.
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DEFINITION
ACCESSION
VERSION
KEYWORDS
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BD223245
                    REFERENCE
AUTHORS
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AUTHORS
TITLE
JOURNAL
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KEYWORDS
SOURCE
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DEFINITION
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Best Local S
Matches 217
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                                                                                  ORGANISM
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                                                                                                                                                                                                                                                                                                    318
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OS ARTIFICI
OS ARTIFICI
PN JP 20025
PD J0-JUL-2
PD 10-JUL-2
PP 17-AUG-1
PR 18-AUG-1
PR 18-AUG-1
PG C12N15/0
PC C12N5/0
PC C12N5/00
PC C1
                                                                          synthetic construct
                                                                                                                     JP 2002523047-A/14.
                                                                                                                                     BD223245
Method of genetic expres
BD223245
BD223245.1 GI:33033015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 534)
Evans, I.J. and Ray, J.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            synthetic construct synthetic construct
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Polynucleotide sequences
BD240936
    Ray,J.A.
                    Broekaert, W.F.,
                                   other sequences; artificial sequences
1 (bases 1 to 485)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Polynucleotide sequences
Patent: JP 2002523052-A 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        other sequences; artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BD240936.1 GI:33050706
JP 2002523052-A/22.
                                                                                                                                                                                                                                                                                                                                                                                                       AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTTCTGTTACTTCAATTGTAAAAAAGC 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
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17-AUG-1999 JP 2000566448
18-AUG-1998 GB 9818003.7
1AN JEFFREY EVANS, JOHN ANTHONY RAY
C12N15/09, A01H5/00, C07K14/415, C12N5/10//(C12N5/10, C12R1:91),
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
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98.6%;
                    Francois, I.E.J.A.,
                                                                                                                                                                             485
expression
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Pred. No. 5.2e-45;
0; Mismatches 3
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                    Bolle, M.F.C.D.,
                                                                                                                                                                                               DNA
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                    Evans, I.J.
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AUTHORS
TITLE
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BD240918
LOCUS
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ACCESSION
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                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                            SOURCE
ORGANISM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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Best Local Similarity
                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
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SYNGENTA LTD
OS DAhlia m
PN JP 20025
PD 30-UUL-2
PF 17-AUG-1
PR 18-AUG-1
PI IAN JEFF
PC C12N15/0
PC C12N15/0
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PC C12N15/
C12R1:91),
                                                                                                                                                                                                                                                                         Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Trach Spermatophyta; Magnollophyta; eudicotyledons; core eudicot asterids; campanulids; Asterales; Asteraceae; Asteroideae; Coreopsideae; Dahlia.
                                                                                                                                                                                                                                                                                                                                                       Dahlia merckii (bedding dahlia)
Dahlia merckii
                                                                                                                                                                                               1 (bases 1 to 577)
Evans, I.J. and Ray, J.A.
Polynucleotide sequences
Patent: JP 2002523052-A 4
                                                                                                                                                                                                                                                                                                                                                                                                 BD240918.1 GI:33050688
JP 2002523052-A/4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEY
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                  C12N15/09, A01H5/00, C07K14/415, C12N5/10//(C12N5/10, C12R1:91), C12N15/00,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
  C12N5/00, (C12N5/00, C12R1:91)
                                                       30-JUL-2002
17-AUG-1999 JP 2000566448
18-AUG-1998 GB 9818003.7
IAN JEFFREY EVANS, JOHN ANTHONY
                                                                                                                                       JP 2002523052-A/4
                                                                                                                                                          Dahlia merckii (dahlia)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="synthetic co
/mol_type="genomic DNA"
/db_xref="taxon:32630"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
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                                                                                                                                                                                                 30-JUL-2002;
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                                                           RAY
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eudicots;

Tracheophyta;

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TITLE
JOURNAL
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SYNGENTA LTD

OS Artificial Sequence
PN JP 2002523047-A/14

PD 30-JUL-2002

PF 17-AUG-1999 JP 2000566429
PF 17-AUG-1999 GB 9818001.1,04-DEC-1998 GB
WILLEM FRANS BROEKAERT,ISABELLE ELSA JEANNE
AUGUSTINE FRANCOIS,
PI MIGUEL FRANCESCO COLETA DE BOLLE,IAN JEFFREY
                                                                                                                                                                                                                                                                                                                                                       CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATATCGCATCCGTTAGTGGAGAAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA 214
                                                                                                                                                                                                                                                                             AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC 334
                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
                                                                                                                            CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTC
                                                                                                                                                                           CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTC 374
                                                                                                                                                                                                                           AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTAAAAAAGC
                                                                                                                                                                                                                                                                                                                               CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCTCACGG 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C12N15/00,C12N5/00,(C12N5/00,C12R1:91)
Description of Artificial Sequence: Sy
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C12N15/09, A01H1/00, C07K1/12, C12N5/10, C12P21/02//(C12N5/10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 212; DB 6;
Pred. No. 3.5e-44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 485
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RESULT 9
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Best Local
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                                                                                       OS ARTÍFICIAL Sequence
PN JP 2002523047-A/12
PD J0-JUL-2002
PF 17-AUG-1999 JP 2000566429
PF 17-AUG-1999 GB 9818001.1,04-DEC-1998 GB
PR 18-AUG-1998 GB 9818001.1,04-DEC-1998 GB
WILLEM FRANG BROEKAERT, ISABELLE ELSA JEANNE
AUGUSTINE FRANCCOIS,
PI MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFRE
ANTHONY RAY
PC C12N15/09,A01H1/00,C07K1/12,C12N5/10,C12P21
PC C12N15/09,C12N5/00,C12R1:91)
PC C12N15/00,C12N5/00,C12R1:91)
CC Description of Artificial Sequence: Synthet
Key
FT CDS (3)...(476).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA 214
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       485 Method of genetic expression BD223243
                                                                                                                                                                                                                                                                                                                                         Method of genetic expression of polyprotein in plant Patent: JP 2002523047-A 12 30-JUL-2002; SYNGENTA LTD
                                                                                                                                                                                                                                                                                                                                                                                                                      other sequences; artificial sequences
1 (bases 1 to 485)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            synthetic construct
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JP 2002523047-A/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BD223243.1 GT:33033013
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                                                                                                                                                                                                         MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY EVANS, JOHN
                                                                                                                                                                            C12N15/09, A01H1/00, C07K1/12, C12N5/10, C12P21/02// (C12N5/10,
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Key Location,
CDS (20) (:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Dahlia merckii"
/mol_type="genomic DNA"
/db_xref="taxon:43367"
           organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"
                                                                              Location/Qualifiers
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Pred. No. 3.7e-35;
0; Mismatches 28;
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PI MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEPFREY EV.
ANTHONY RAY
PC C12N15/09, A01H1/00, C07K1/12, C12N5/7
C1271:91),
PC C12N15/00, C17N7
               215
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Method of
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1 (bases 1 to 446)
Broekaert, W.F., Francois, I.E.J.A., Bolle, M.F.C.D., Evans, I.J.
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CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
                                                         AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA 214
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                                          AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGTGCTAACGC
                                                                                                                                                                                                                                                                                                                                                                                          Artificial Sequence JP 2002523047-A/8 30-JUL-2002
                                                                                            38.6%;
ilarity 93.3%;
Conservative
                                                                                                                                                                                                                                       C12N15/00,C12N5/00,(C12N5/00,C12R1:91)
Description of Artificial Sequence: Sy
Location/Qualifiers
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                                                                                                                                                        /organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              446
genetic expression
                                                                                                                                                                                                             Location/Qualifiers
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                                                                                            Score 172.2; DB 6;
Pred. No. 7.3e-34;
0; Mismatches 13;
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n in plant.
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                                          124
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RESULT 11
BD22324
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JOURNAL
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PF 17-AUG-1998 GB .9818001.1,04-DEC-1998 GB
WILLEM FRANG SHOEKAERT, ISABELLE ELSA JEANNE
AUGUSTINE FRANCOIS,
PI MIGUEL FRANCESCO COLETA DE BOLLE, IAN JEFFREY EVA.
ANTHONY RAY
PC C12N15/09, A01H1/00, C07K1/12, C12N5/10. C12R1.91),
PC C12N15/00, C12N5/00, (C12N5/00, C12N5/00, FT C12N5/00, C12N5/00,
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BD223244
BD223244.1 GI:33033014
JP 2002523047-A/13.
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1 (bases 1 to 1093)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
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                                                                                                   TGAGGAAGCTGCTGCTATTCCTGAAGCTTCTGAAGAACTTGCTCAAGAAGAAGCTCC
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TG 306
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genetic expression
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/mol_type="genomic DNA"
/db_xref="taxon:32630"
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Pred. No. 2.8e-33;
0; Mismatches 35
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Best Local Similarity
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Dimorphotheca sinuata (African daisy)
Dimorphotheca sinuata
Dimorphotheca sinuata
Eukaryota; Viridiplantae; Streptophyta; Embryophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eu
asterids; campanulids; Asterales; Asteraceae; Asteroi
Calenduleae; Dimorphotheca.
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PC C12N15/
C12R1:91),
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Sequence 3 from Patent WO0068405.
AXO46745
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OS Artificial Sequence
PN JP 2002523047-A/2
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PF 17-AUG-1999 JP 2000566429

PR 18-AUG-1998 GB 9818001.1,04-DEC-1998

WILLEM FRANS BROEKAERT, ISABELLE ELSA JEANNE

AUGUSTINE FRANCOIS,
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Broekaert, W.F., Francois, I.E.J.A., Bolle, M.F.C.D.,
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synthetic construct
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JP 2002523047-A/2.
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Description of Artificial Sequence: Sy
Location(Qualifiers
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/mol_type="genomic DNA"
/db_xref="taxon:32630"
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Pred. No. 4.4e-33;
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Best Local S
Matches 195
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                155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCCTAGCAAGACATGGTCGGGAAA 214
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E.I. DU
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Dimorphotheca sinuata
Dimorphotheca sinuata
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
asterias; campanulids; Asterales; Asteraceae; Asteroideae;
Calenduleae; Dimorphotheca.
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Sequence 1 from Patent WO0068405
AX046743
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                                                                    Similarity
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AGAAATCGCGACTGTGAGAAGTGCACTATGTGAGAAAGCTAGCAAGACATGGTCAGGCAA
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/mol_type="unassigned DNA"
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/mol_type="unassigned DNA"
/db_xref="taxon:112408"
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Pred. No. 6.3e-33;
0; Mismatches 44
                                                     Score 168.6; DB 6;
Pred. No. 6.3e-33;
0; Mismatches 44;
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Best Local Similarity
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9818001..
21 MIGUEL FRANCOIS,
21 MIGUEL FRANCESCO COLETA DE BOL
ANTHONY RAY
PC C12N15/09,A01H1/00,C07F*
C12R1:91)
CC C12N15/00,C12***
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PF 17-AUG-1999 JP 2000566429

PR 18-AUG-1998 GB 9818001.1,04-DEC-1998

WILLEM FRANS BROEKAERT, ISABELLE ELSA JEANNE

AUGUSTINE FRANCOIS,
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SYNGENTA LTD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Broekaert, W.F., Francois, I.E.J.A., Bolle, M.F.C.D., Evans, I.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  other sequences; artificial sequences.
1 (bases 1 to 534)
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JP 2002523047-A/6.
                                                                                                                                    AGATATCGCATCCGTTAGTGGAGAAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAA 214
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AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGT
                              AGCGTGTCATGTGCGTAACGGGAAACACATGTGTTTCTGTTACTTCAATTGT 326
                                                                                                                  AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACGTGGTCGGGCAA
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                                                           CTGTGGCAACACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG
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Description of Artificial Sequence: Sy
Location Qualifiers
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JP 2002523047-A/6
                                                                                                                                                                           Conservative
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/mol_type="genomic DNA"
/db_xref="taxon:32630"
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Pred. No. 1.5e-32;
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Perfect score:
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Match Length DB
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1: /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/1/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/1/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/1/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/1/ina/backfiles1.seq:*
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   atggtgaatcggtcggttgc....ttccaaacgttgaacatccg
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 GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
US-09-589-733C-6
US-08-377-687-31
US-08-971-982-31
US-08-971-982-33
US-08-971-982-33
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US-08-971-982-33
US-08-971-982-34
US-08-971-982-36
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US-08-971-982-36
US-08-627-706-14
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US-09-103-489-19
US-09-103-489-19
US-09-103-489-9
US-08-377-687-48
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7.8	7.8		7.9	7.9	7.9	7.9	7.9	8.4	8.6	8.6	8.6	8.6	8.7	8.7	8.7	8.7	8.7
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Sequence 11789, A	Sequence 17101, A	Sequence 16073, A	Sequence 16859, A	Sequence 18612, A	Sequence 3330, Ap	Sequence 178474,	Sequence 154963,	•	Sequence 32, Appl	•	Sequence 32, Appl	Sequence 9, Appli	Sequence 14, Appl	•	Sequence 58, Appl	•	•

## ALIGNMENTS

Searched:

Sequence:

Run on:

Q	Db	Ş	₽ \$	€	Db	Ş	B &	Query Match Best Local Matches 18	; TYPE ; ORGA US-09-58	; LENGTH:	; SOFTWARE:	, NUMBER OF	, PRIOR	, PRIOR	; CURRENT	CURRENT	; FILE	; TITLE	: APPLICANT:	; APPLICANT	; APPLICANT:	GENERA	; Patent No.	US-09-589-	RESULT 1
395 CCAAAAG 401 	279 CCAGAAGTTGGCTCAGGATAAACTCAGAGCGGAAAGAGCTCGCCAAGGAGAAGATTGAACC 338	335 CGAAAAGCTTGCTCAAGACAAACTTAAAGCCGAACAACTCGCTCAAGACAAACTTAATGC 394		275 באניטייטיים בער מייים מיים מייים מיי	ATGTGGCAAGACAAAACACTGTGATGACCAGTGCAAGTCTTGGGAGGGTGCAGCCCATGG	215 CTGTGGCAATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGG 274	155 AGATATCGCATCCGTTAGTGGAGAACTATGCGAGAAAAGCTAGCAAGACATGGTCGGGAAA 214	Match 34.6%; Score 154.2; DB 4; Length 565; Local Similarity 76.5%; Pred. No. 8.6e-38; Local Similarity 0; Mismatches 58; Indels 0; Gaps 0	TYPE: DNA ORGANISM: Helianthus annuus 09-589-733C-6	IH: 565	FastSEQ for	OF SEQ ID NOS: 41	ATION A	FILING DATE: 1999-06-23	ADDITING DATE: 2000-06-08	APPLICATION N	3 OF INVENTION: Genes and their Uses	NVENTION: Sunflower Anti-Pa	CANT: Lu. Guihua	Duvick,	CANT: Crasta, Oswald R.	ORMATION:	No. 6677503	7330	

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RESULT 3
US-08-777-192-31
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Sequence 31, Application US/08777192
Patent No. 5824869
GENERAL INFORMATION:
APPLICANT: BROEKAERT, WILLEM F.
                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 22.3%;
Best Local Similarity 79.2%;
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Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/377,687
FILING DATE:
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/002,480
FILING DATE: 04-JAN-1993
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 99042/SEE.
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 150 base pairs
TYPE: nucleac acid
STRANDEDNESS: both
TOPOLCOT: linear
MOLECULE TYPE: cDNA
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INFORMATION FOR SEQ ID NO:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHMAN DARBY & CUSHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: ZUZ COMPANY: 202-822-0944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: WASHINGTON STATE: D.C.
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                                                                                                                                                                 121
                                                                                                                                                                                                    297 AAACACATGTGTTTCTGTTACTTCAATTG 325
                                                                                                                                                                                                                                                                                  237 GACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGGAGCGTGTCATGTGCGTAACGGG 296
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o. 5538525
                                                                                                                                                            AAGCATATGTGCTTCTGCTACTTCAACTG 149
                                                                                                                                                                                                                                          GATAACCAATGCAAGTCTTGGGAGGGAGCTGCTCATGGAGCTTGCCATGTTAGAAACGGA 120
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TERRAS, FRANKY R.G.
                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                        Score 99.4; DB 1;
Pred. No. 4.6e-21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 150;
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RESULT 4
US-08-971-982-31
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US-08-777-192-31
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ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 9904
TELECOMMUNICATION INFORMATION:
TELESPHONE: 202-861-3000
TELESPAX: 202-862-0944
INFORMATION FOR SEQ. ID NO: 31:
                                                                                                                                                                      Sequence 31, Application US/08971982 Patent No. 6187904 GENERAL INFORMATION:
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 150 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
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APPLICANT: BROEKAERT, WILLEM F.
CAMMUS, BRUNO P.A.
OSBORN, RUPERT W.
REES, SARAH B.
TERRAS, FRANKY R.G.
VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
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STRANDEDNESS: DOL
STRANDEDNESS: DOL
TOGY: linear
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STRANDEDNESS: both
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                                                                                                                                                                                                                                                                                                                                                297 AAACACATGTGTTTCTGTTACTTCAATTG 325
                                                                                                                                                                                                                                                                                                                                                                                                                                            237 GACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGGAGCGTGTCATGTGCGTAACGGG
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NS, FRANKY R.G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22.3%; Score 99.4; DB 1; Length 150; 79.2%; Pred. No. 4.6e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US 08/002,480
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TOPOLOGY: linear

MOLECULE TYPE: CDNA
SEQUENCE DESCRIPTION: SEQ ID NO: 31:
US-08-971-982-31
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Best Local Similarity
Matches 118; Conserv
                                                                                                                                                                                                                                                     Patent No. 5538525
GENERAL INFORMATION:
APPLICANT: BROEKAE
APPLICANT: CAMMUE.
                                                                                                                                                                                                                                                                                                                                Sequence 33,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                    APPLICANT:
COMPUTER READABLE FORM:
                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                               FITLE OF INVENTION:
                                                                 STREET: 1100 NEW CITY: WASHINGTON
                                COUNTRY:
                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/971,982
FILING DATE: 17-NO. 6187904-1997
CLASSIFICATION: <UNKnown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAMÉ: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 99042/SEE.36525/US/A
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-861-3000
TELEFAX: 202-822-0944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 08/002,480 FILING DATE: 04-JAN-1993 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              297
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TYPE: nucleic acid
STRANDEDNESS: both
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                                                                                                                                                                                                                                                                                                                                 Application US/08377687
                                    USA
                                                                                                                                                           TERRAS, FRANKY R.G.
VANDERLEYDEN, JOZEF
VVENTION: BIOCIDAL PROTEINS
                                                                                      CUSHMAN DARBY & CUSHMAN 1100 NEW YORK AVENUE, N.W.
                                                                                                                                                                                                                    REES,
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OSBORN, RUPERT W.
                                                                                                                                                                                                                                                                            BROEKAERT, WILLEM F.
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79.2%;
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Pred. No. 4.6e-21;
0; Mismatches 31;
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US-08-777-192-33
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/002
FILING DATE: 04-JAN-1993
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 9904
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 1070RMATION:
TELECOMMUNICATION 1070RMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: BROEKA
APPLICANT: CAMMUE
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 150 base pairs
TYPE: nucleic acid
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/777,192
                                                                                                                                                                                                                                                                                               APPLICANT: VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
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MOLECULE TYPE:
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                     STREET: 1100 NEW CITY: WASHINGTON STATE: D.C.
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                                                                                                                                                                                                                                     ADDRESSEE: CUSHMAN DARBY & CUSHMAN STREET: 1100 NEW YORK AVENUE, N.W.
                                                                                                                                                    ZIP: 20005
                                                                                                                                                                     COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            177 GAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAACTGTGGCAATACGGGACATTGT 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            297 AAACACATGTGTTTCTGTTACTTCAATTG 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               237 GACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGGAGCGTGTCATGTGCGTAACGGG 296
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US-08-971-982-33
, Sequence 33, Application US/08971982
; Patent No. 6187904
; GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: both
TOPOLOGY: linear
MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION: TELEPHONE: 202-861-3000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 04-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 99042/SEE.36525/US/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE:
APPLICATION NUMBER: US 08/002,480
FILING DATE: 04-JAN-193
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N:
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 99042/SEI
TELECOMMUNICATION INFORMATION:
                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/971,982
PILING DATE: 17-No. 6187904-1997
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                             ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
CORRESPONDENCE ----
                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHMAN DARBY & CUSHMAN
STREET: 1100 NEW YORK AVENUE, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: BROEKAERT, WILLEM F.
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OSBORN, RUPERT W.
REES, SARAH B.
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Pred. No. 1.4e-18;
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                     99042/SEE.36525/US/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
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                                                     TELEFAX: 202-822-0944
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                        APPLICATION NUMBER: US/08/377,687
FILING DATE:
CLASSIFICATION: 800
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/002,480
FILING DATE: 04-JAN-1993
ATTORNEY/ACENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 99042/SEE.
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-861-3000
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INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
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APPLICANT: TERRAS, FRANKY R.G.
APPLICANT: VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of COMPUTER: IBM PC computer:
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 STRANDEDNESS:
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                                   ENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear MOLECULE TYPE: cDNA
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TYPE: nucleic acid
STRANDEDNESS: both
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                               150 base pairs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
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leic acid
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                                                                                                                                                   99042/SEE.36525/US/A
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                                                                                                                                       STRANDEDNESS:
TOPOLOGY: lin
MOLECULE TYPE:
US-08-777-192-34
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Query Match 19.4
Best Local Similarity 73.8
Matches 110; Conservative
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Best Local Similarity 73.8%;
Matches 110; Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
SERVICE SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/002,480
FILING DATE: 04-JAN-1993
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REPERENCE/DOCKET NUMBER: 99042/SEE.36525/US/A
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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APPLICANT: VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
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CLASSIFICATION:
                                                                                                                                                                                                                                                                   TYPE: nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            237
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D.O
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CAMMUE, BRUNO P.A.
OSBORN, RUPERT W.
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                                   19.4%;
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                                                                                                                                                                                                                                                                                                                                                                                  34:
Score 86.6; DB 1;
Pred. No. 4.3e-17;
0; Mismatches 39;
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Pred. No. 4.3e-17;
0; Mismatches 39;
       39;
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                                                                   Length 150;
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LENGTH: 150 base pairs

TYPE: nucleic acid

STRANDEDNESS: both

TOPOLOGY: linear

MOLECULE TYPE: cDNA
SEQUENCE DESCRIPTION: SEQ ID NO: 34:
US-08-971-982-34
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US-08-971-982-34
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GENERAL INFORMATION:
                                                                                                                                                                              Query Match
Best Local Similarity
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                                                                                                                                                             Matches
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SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: PatentIn Release #1.0, Ver
CURRENT APPLICATION NUMBER: US/08/971,982
FILING DATE: 17-No. 6187904-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION UMBER: US 08/002,480
FILING DATE: 04-JAN-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: BROEKAERT, WILLEM CAMMUE, BRUNO P.A. OSBORN, RUPERT W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION:
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                       237 GACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGGAGCGTGTCATGTGCGTAACGGG 296
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                                                                                                                                                           110;
                                                                                                    GAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAAACTGTGGCAATACGGGACATTGT 236
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                                                                             GAGCTTTGCGAGAAGGCTTCTAAGACTTGGTCTGGAAACTGCGGAAACACTAAGCATTGC 60
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GATAACAAGTGCAAGTCTTGGGAGGGAGCTGCTCATGGAGCTTGCCATGTTAGATCTGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: KOKULIS, PAUL N. REGISTRATION NUMBER: 1
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COUNTRY: USA
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                                                                                                                                                           Conservative
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                                                                                                                                                                            Score 86.6; DB 3;
Pred. No. 4.3e-17;
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                                                                                                                                                         Mismatches
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RESULT 12
US-08-777-192-36
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Best Local (
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Patent No. 55385
                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION UNMEER: US 08/002
FILING DATE: 04-JAN-1993
ATTORNEY/AGENT INFORMATION:
NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 9904
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-861-3000
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/377 (CLASSIET)
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APPLICANT:
APPLICANT:
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CTTY: WASHINGTON
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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TOPOLOGY: lin
                                                                                                                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
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                                                                                           298 AACACATGTGTTTCTGTTACTTCAATTG 325
                                                                                                                                                         238 ACAACCAATGTAAATCATGGGAGGGTGCGGCCCATGGAGCGTGTCATGTGCGTAACGGGA 297
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                                                             ACTGGAAGTGCTTCTGCTACTTCGATTG 146
                                                                                                                           ATACTCAATGCAGAAACTGGGAGTCTGCTAAGCATGGAGCTTGCCATAAG---AGAGGAA
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                                                                                                                                                                                                                                                                                                                                                                                                   147 base pairs
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                                                                                                                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                     13.1%; Score 58.4; DB 1; 66.9%; Pred. No. 2.5e-08; tive 0; Mismatches 46;
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                                                                                                                                                                                                                                                                                     Length 147;
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RESULT 13
US-08-971-982-36
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           Sequence 36, Application US/08971982
Patent No. 6187904
GENERAL INFORMATION:
APPLICANT: BROBKAERT, WILLEM F.
CAMMUE, BRUNO P.A.
OSBORN, RUPERT W.
REES, SARAH B.
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 99; Conserv
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Patent No. 5824869
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INFORMATION FOR SEQ ID NO:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 147 base pairs
TYPE: nucleic acid
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APPLICATION NUMBER: US 00
FILING DATE: 04-JAN-1993
ATTORNEY/AGENT INFORMATION:
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APPLICANT: VANDERLEYDEN, JOZEF
TITLE OF INVENTION: BIOCIDAL PROTEINS
NUMBER OF SEQUENCES: 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: KOKULIS, PAUL N.
REGISTRATION NUMBER: 16,773
REFERENCE/DOCKET NUMBER: 990
TELECOMMUNICATION INFORMATION:
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CLASSIFICATION:
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ERRAS, FRANKY R.G
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Pred. No. 2.5e-08;
0; Mismatches 46
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                                                                                                                                                                                                                                                                                                                                                                          RESULT 14
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                                                                                                                                                                                                                                                                                                        Sequence 14, Application US/08627706 Patent No. 5773696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                      Patent No.
                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                   APPLICANT: Liang, Jihong
APPLICANT: Shah, Dilip M.
APPLICANT: Wu, Yonnie S.
APPLICANT: Wu, Yonnie S.
APPLICANT: ROSENDETGET, Cindy A.
TITLE OF INVENTION: Antifungal Polypeptide and Methods for
TITLE OF INVENTION: Controlling Plant Pathogenic Fungi
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 36:
                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Charles E. Cohen, Monsanto Company, BB4F
STREET: 700 Chesterfield Village Parkway No. 5773696th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: cDNA SEQUENCE DESCRIPTION: SEQ ID NO: 36:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 147 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 99042/SEE.36525/US/A TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/002,480

FILING DATE: 04-JAN-1993

ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: BIOCIDAL PROTEINS NUMBER OF SEQUENCES: 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                178 AACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAAACTGTGGCAATACGGGACATTGTG 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
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Similarity 66.9%;
                     St. Louis
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTGGAAGTGCTTCTGCTACTTCGATTG 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACACATGTGTTTCTGTTACTTCAATTG 325
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nucleic acid
STRANDEDNESS: both
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: KOKULIS, PAUL N. REGISTRATION NUMBER: 16,773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: 1100 NEW YORK AVENUE, N.W CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 202-822-0944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: D.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 202-861-3000
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Missouri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 147;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 14, Application US/09103489
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Best Local Similarity 53.8%;
Matches 92; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (314)537-604
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                     APPLICANT: Shah, Dilly ...

APPLICANT: Wu, Yonnie S.

APPLICANT: Rosenberger, Cindy A.

APPLICANT: Rosenberger, Cindy A.

TITLE OF INVENTION: Antifungal Polypeptide and Methods

TITLE OF INVENTION: Controlling Plant Pathogenic Fungi
                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/99/103,489
FILING DATE: 24-UN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Cohen, Charles E.
REGISTRATION NUMBER: 34,565
REFERENCE/DOCKET NUMBER: 38-21(10700)A
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Charles E. Cohen, Monsanto Company, BB4F
STREET: 700 Chesterfield Village Parkway No. 6215048th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS
ATTORNEY/AGENT INFORMATION:
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CITY: St. Louis
STATE: Missouri
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CLASSIFICATION
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                      CLASSIFICATION:
                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             163 CATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAACTGTGGCA 222
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                                                                                                      #1.30
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NAME: Cohen, Charles E.
REGISTRATION NUMBER: 34,565
REFERENCE/DOCKET NUMBER: 38-21 (10700) A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (314) 537-6047
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 270 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TYPE: TOPOLOGY: linear
MOLECULE TYPE: CDNA
US-09-103-489-14
Search completed: March 18, 2005, 16:31:56 Job time: 137 secs
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                                                                                  223 ATACGGGACATTGTGACAACCAATGTAAATCATGGGAGGGTGCGGGCCCATGGAGCGTGTC 282
                                                                                                                                                                                                                                                                                        163 CATCCGTTAGTGGAGAACTATGCGAGAAAGCTAGCAAGACATGGTCGGGAAACTGTGGCA 222
                                                                                                                                                                         155 ACAACAATGCATGCAGGAACCAATGCAGAAACCTTGAAAGAGCAGAACACGGATCTTGCA 214
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